CHAPTER 5
AREAS FOR FUTURE CONSIDERATION

Original fieldwork, qualitative and quantitative observation, and visitor profiles suggest a broad range of policy and planning directions that could be pursued in the transportation management plan for the Marin Headlands and Ft. Baker. Study results indicate areas that are not only opportunities for change and improvement but also that many aspects of the existing system already complement the Park's local and regional transportation needs. In fact, 81% of survey respondents reported that they did not encounter any transportation problems reaching their destinations within the study area; however, this type of survey did not reach the transit-dependent (e.g., one-third of the population of San Francisco) who cannot get to the Park.

In this section, the major concepts and specific findings that emerge from the study are discussed along with their relevance to the next phase of the project's planning process, the development of alternatives.

MULTI-MODAL ACCESS

An overwhelming majority of current park visitors, 88% of our survey respondents, reported that they arrived to the study area by automobile. However, there are also many reasons to believe that alternative transportation strategies are not only desirable but also viable in the Marin Headlands and Ft. Baker.

- Transit service is limited, but 26 Golden Gate Transit lines pass directly *through* the study area on Highway 101 and Muni's 76 Line on Sundays and holidays frequently attracts a high number of riders. The success of this service suggests opportunities for providing transit stops at key destinations in the study area.

- Once visitors are within the park boundaries, their usage of other modes of travel increases considerably. Twenty-two percent of survey respondents reported walking or hiking and 8% reported bicycling as ways of traveling between destinations in the Park.

- The pedestrian and bicycle access on the Golden Gate Bridge offers a popular link between San Francisco and the study area. The connections between the northern terminus of the Golden Gate Bridge and the Trailhead lot creates a bicycle and pedestrian connection between Vista Point and the Marin Headlands.

- Particularly on weekends, bicycles are a popular mode of access. Among survey respondents, bicycles were used as the *primary* mode of access twice

as much on Sunday than on Saturday and 5 times as much on Sunday than on Thursday.

- More than one-third of survey respondents began their trip to the study area from San Francisco, a city with rich transit services and connections to Marin County-bound Golden Gate Transit routes. San Franciscans are also three times more likely to bicycle within the Park than visitors arriving from somewhere else.

- Given the possibility of a "Car Free Day", 70% of survey respondents indicated that they would try some form of alternative transportation mode to access the Park. Thirty-five percent of respondents indicated their willingness to drive to a central parking lot and take a shuttle to the Park.

- Nine of the 10 Park Partners surveyed would like to see improvements in public transportation or the implementation of a shuttle service in the study area.

- Eight of the 10 organizations surveyed suggested that housing be evaluated as one solution to address transportation issues.

A variety of alternative transportation strategies could be considered including the enhancement of transit connections, especially from San Francisco and also from Marin County. The implementation of an internal shuttle service could eliminate the need to drive within park boundaries and also encourage the use of alternative access to the Park itself if appropriately designed with connections to other alternative modes.

The bike and pedestrian connections to the study area via the Golden Gate Bridge and the popularity of biking and hiking within the study area suggest that strong attention should be given to making roads such Alexander Avenue, East Road and Bunker Road more accommodating to a multiplicity of modes. Particularly from Vista Point, bike connections deserve careful attention, especially given the proximity of Vista Point to Ft. Baker and the access available to the Marin Headlands through the pedestrian underpass.

However, the success of any alternative access program needs to acknowledge the many users who may not be familiar with either the study area or their travel options. (41% of park users are first time visitors and almost 1/3 of the visitors are from outside the Bay Area) Thus, encouraging visitors to travel in ways other than the automobile will depend not only on the quality of the transportation provided but also on the clarity and availability of travel service information to the full range of potential users.

For destinations such as the Bay Area Discovery Museum where a large number of visitors arrive with young children and related gear, alternative modes may not appear practical to the visitors. For employees and volunteers working within the park boundaries, private transportation holds a particular utility. Among recreationalists, it is

interesting to note that walkers said they would avoid the Park on "car free days" at a rate *eight* times that of the cyclists.

ROADWAY SUPPLY

The roadway network was designed and built by the military for their limited use, not the general public to enjoy a national park. The narrow and winding nature of park roads such as Conzelman suggests that existing road widths are not sufficient to accommodate vehicles, bicyclists and pedestrians. Particularly around popular destination areas such as Battery Spencer, there are many conflicts between users of different modes. However, the vast majority of the park road network is actually underutilized with two lane roads and gravel shoulders frequently serving only very few vehicles – even during peak periods and times.

Although congestion may be an issue during special events, peak times, and at popular destinations, certain parts of the Park's vehicular road network are actually at overcapacity.

- The stretch of Bunker Road west of the Barry-Baker tunnel has total segment widths of at least 40 feet including 25 feet of paved roadway and 15 feet of gravel shoulders. Bunker Road is a road frequently chosen by bicyclists because of its level grade and the striped bike lanes in the one-way Barry Baker tunnel.

- Five of the 7 intersections in the study area operated at a Level of Service "A" during weekend peak hours. The exceptions are Conzelman Road/ Alexander Avenue –US 101 Southbound On-Ramp (LOS "E") and Alexander Avenue/US 101 Northbound ramp (LOS "C"). *None* of the intersections within park boundaries perform below a Level of Service "A."

- The number of vehicles entering the Marin Headlands on a weekday was almost half as many that enter on a Sunday during the peak summer period.

The openness of the Park's internal road network, however, is in clear contrast with congestion in the surrounding regional network where peak period queues and delays on the Golden Gate Bridge, US 101, and Alexander Avenue created by non-park destined traffic compromise access to the Headlands via the Conzelman Road and Barry Baker Tunnel entrances.

Addressing the issue of road supply in the study area will require dual approaches, carefully distinguishing between the congestion of the regional network from the capacity of park roads. Regional network solutions will require the cooperation of others, including members of the Parklands Transportation Task Force. At the same time, a variety of strategies might be considered which address both networks including modifications to the two-way travel patterns at the entrances to the Headlands, installation of appropriate signage directions, and maximum car reduction strategies inside park boundaries.

PARKING SUPPLY

Even during overcast summer weekdays, parking spaces along Conzelman Road at Battery Spencer and Hawk Hill are in high demand. The competition for spaces results in potential safety risks to the bicyclists and pedestrians who are sharing limited road space with automobiles backing out, waiting, and pulling into spaces. During special events at the Bay Area Discovery Museum and at the Marin Headlands Center for the Arts, parking is also in high demand.

However, in the vast majority of the study area, parking spaces are in abundant supply and within close walking distance of popular destinations. Similar to the Park's roadway capacity, this study suggests that certain portions of parkland may be inefficiently allocated to parking capacity.

- None of the parking areas *ever* reached capacity except Battery Spencer where there are also the highest rates of turnover.

- During a sunny weekend summer day, parking utilization exceeded 75% at only four locations: the Bay Area Discovery Museum, Battery Spencer, Battery Mendell & the Trailhead Lot (Conzelman west of Highway 101). In 9 of the 15 parking areas surveyed throughout the study area, utilization was less than 50%.

- One of the study area's largest parking areas, the Battery Alexander lot with a total capacity of 75 cars, held 6 cars at its maximum utilization during a peak summer day.

- Even in areas with high parking utilization, high turnover suggests that park visitors do not have much trouble parking. For example, at the Bay Area Discovery Museum, while peak utilization exceeded 75%, three fourths of the vehicles parked for less than two hours. The same high levels of turnover are true at other sites with high parking utilization.

- Almost none of the survey respondents reported a lack of parking as a transportation problem they encountered in the study area.

Where parking is in undersupply such as at Battery Spencer or during special events, one approach may be to provide clearly marked information on alternative parking facilities near the desired destination.

WAYFINDING

The Marin Headlands are difficult to find whether entering from San Francisco or Marin County (from the north). Even for visitors familiar with the internal and surrounding road networks, the absence of appropriate street signs and directionals makes it difficult to access park entrances and find major destinations inside the park boundaries.

- Access to Ft. Baker and the Bay Area Discovery Museum is especially compromised by the absence of directional signs and consistently named streets inside and outside of park boundaries.

- The irregularity of the street network in the study area makes street signage particularly important to all park visitors.

- Of the survey respondents who encountered transportation problems, 30% identified poor signage as a problem in the study area.

Improved signage could alleviate the confusion of the park visitor and also reduce the amount of time cars spend aimlessly driving around the study area, including the congested regional roadways. Particularly on Highway 101, signage in both directions could better alert visitors to the appropriate Alexander Avenue exit to the Marin Headlands and Ft. Baker. Signage could also indicate some of the more popular destinations such as the Bay Area Discovery Museum, which is not always known to be within the boundaries of Ft. Baker, if Caltrans can make an exception to standard policies on signs for landmarks and attractions.

Signage need not be an intrusive element in the landscape. The directional signage at the Presidio of San Francisco has been cited as an example. With careful attention to size and design, signs could serve directional, aesthetic, and interpretive functions in transitional spaces such as the Golden Gate Bridge pedestrian underpass.

Table of Contents

Table of Figures

Error! No table of figures entries found.

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